2016 ENERGY AND SUSTAINABILITY PREDICTIONS
FINDINGS FROM FACILITIES PROFESSIONALS
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUMMARY</td>
<td>3</td>
</tr>
<tr>
<td>EYE ON THE FACILITY MANAGER</td>
<td>4</td>
</tr>
<tr>
<td>CAP EX PROJECTS LEAD FACILITIES GROUP INVESTMENT PRIORITIES</td>
<td>5</td>
</tr>
<tr>
<td>ENERGY DATA IDENTIFIES LOW COST/NO COST EFFICIENCY INITIATIVES</td>
<td>6</td>
</tr>
<tr>
<td>ENERGY PRICES, RESOURCES EXPECTED TO CLIMB</td>
<td>7</td>
</tr>
<tr>
<td>HAULER/PICKUP OPTIMIZATION LEADS WASTE GOALS</td>
<td>8</td>
</tr>
<tr>
<td>WATER STRATEGIES MARKED BY LOW COST EFFICIENCY GAINS</td>
<td>9</td>
</tr>
<tr>
<td>DISTRIBUTED ENERGY RESOURCES ON THE RISE</td>
<td>10</td>
</tr>
<tr>
<td>A HOLISTIC APPROACH</td>
<td>11</td>
</tr>
<tr>
<td>ABOUT ECOVA</td>
<td>12</td>
</tr>
</tbody>
</table>
SUMMARY

Internet of Things (IoT)-driven building monitoring systems are giving organizations more and deeper insight into facilities- and asset-level energy consumption and performance. This newfound corporate insight into site-level efficiency metrics is putting pressure on facilities professionals to improve their performance, bumping water and energy efficiency improvements to the top of their priority lists.

The good news for those facilities managers (FM’s) is that the data gleaned from tech advances is helping them make more informed site-level efficiency decisions, which generate utility, water and waste savings and have a direct net impact on revenue.

Facilities managers remain challenged, however, by an expectation of energy and water cost increases and relatively flat allocation of the resources they need to drive efficiency gains. Such are the findings from Ecova’s 2016 Energy and Sustainability Predictions: Findings from Leading Professionals report.

Energy costs are fluctuating, technology is advancing, and organizations are continuing their push for transparent energy and natural resource conservation. As these forces work, facilities professionals are seeking new opportunities to minimize energy, water, and waste costs and report those savings back to corporate and constituent stakeholders. This report, derived from our 2016 survey, offers specific insight into how facilities managers are “prioritizing energy, water, and waste efficiency initiatives in light of the forces at work in today’s market”.

“Intelligent buildings, rich, real-time data and interconnected systems - all brought to life by the Internet of Things (IoT) - will arm facilities managers with the granular visibility and insight they need to make drastic improvements in resource consumption.”

—Jamie Daubenspeck, Director Facility Technology, Ecova
EYE ON THE FACILITY MANAGER

With increased focus on energy consumption and the migration form traditional methods of energy control to that of Energy Management Systems (EMS), the role of Facility Manager is more critical than ever. But with conflicting internal and external demands, FM’s are faced with more challenges than ever. Yet they are uniquely positioned to influence positive changes in how organizations are using, and conserving energy.

TOP CHALLENGES THAT FM’S FACE

1. Saving money.
2. Extending the life of existing assets.
3. More work. Fewer resources.
4. Lack of reliable data.
5. Vendor management.

Source: E-Space
Facilities professionals are bullish on CapEx investments. Nearly three quarters of them said investments like LED lighting upgrades, EMS/monitoring controls, distributed energy resources (DERs), and HVAC system upgrades were the smartest investments their companies made in 2015.

For the third year running, our Outlook Survey revealed more interest in lighting retrofits than any other CapEx project, and for good reason. Improved lighting efficiency has long been the starting point for companies beginning their energy and sustainability management journeys, given its relatively low cost and quick return on investment. It’s typical for energy efficient lighting upgrades to deliver 25-35 percent reductions in energy consumption, with a simple payback of two to three years.

With that being noted, signs are pointing toward the increased adoption of energy management systems (EMS) and monitoring controls, which enable consumption visibility at the asset level, as the next opportunity for significant efficiency gains. More organizations are realizing the value of site- and sub-meter-level data as the driver of the insight they need to make impactful efficiency improvements beyond low-hanging fruit like lighting.

The aggregation and analysis of data enabled by building and energy management systems is helping organizations achieve two critical objectives: pinpointing energy consumption anomalies in an effort to meet consumption reduction and savings goals, and proactively monitoring asset performance, thereby reducing maintenance costs.
ENERGY DATA IDENTIFIES LOW COST/NO COST EFFICIENCY INITIATIVES

Organizations are clearly continuing their investment in systems that enable deeper insight into energy consumption at the site- and asset-level. But on their own, those systems are little more than data aggregators and analyzers. The return on the investment in building or asset monitoring is precisely zero—unless organizations are taking action on the data they gather.

To find out where the perceived value behind energy data lies, we asked facilities managers to share their top priorities for leveraging the energy information they’re collecting. We found that facilities managers are more concerned about the identification of low cost/no cost efficiency efforts than their corporate, energy management, finance/accounting, operations, and sustainability professional peers.

EMPHASIS ON EFFICIENCY EFFORTS

53% of facilities managers named the identification of low/no cost efficiency efforts priority number one for 2016.

Interestingly, while a growing volume of deeper facilities-level data helps to shed light on policy and personnel issues impacting energy and water efficiency, only 7 percent of facilities managers said they were leveraging energy data to drive internal training and awareness initiatives. That could prove a missed opportunity, especially in light of the nearly one quarter of corporate responders who expect the creation of efficiency training and awareness programs to be an outcome of increased access to energy data.
ENERGY PRICES, RESOURCES EXPECTED TO CLIMB

While corporate and stakeholder expectations are putting energy and water efficiency pressure on facilities managers from inside the four walls, those managers are particularly wary of market forces on the outside.

Anticipation of spiking energy prices aside, facilities professionals consider a lack of internal resources one of their biggest challenges (30 percent indicated as such). That puts resource constraint concerns ahead of those related to costs, interpreting energy data, and expanding beyond energy to water, waste, and emissions management.
HAULER/PICKUP OPTIMIZATION LEADS WASTE GOALS

Given their vantage point on the front lines of waste hauler operations, facilities and procurement professionals are far-and-away more concerned about right sizing trash collection than any other role. Ensuring the business pays only for the waste services it needs is yet another of the internal pressures facilities managers face to improve the cost efficiency of contracted site-level services.

Fortunately, greater data transparency, reporting, and third-party oversight of haulers creates a relatively new opportunity to continuously analyze and “right size” container size, location, and pickup schedules. Further, as waste diversion opportunities like composting and recycling become available in more localities, “right-streaming” is becoming an increasingly important activity.

“Right-sizing” and “right-streaming” are precursors to zero waste initiatives, which have proven to result in a lower cost of waste disposal. Typically, the larger the volume of recyclable material hauled to a recycling facility, the lower the cost to dispose of it. Many businesses are even selling value-retaining waste as a commodity, thereby reducing or negating the cost of waste disposal and, in some cases, creating a new profit line.
WATER STRATEGIES MARKED BY LOW COST EFFICIENCY GAINS

In concert with energy professionals, facilities managers are leading the charge toward low-cost/no cost water efficiency investments including faucet aerators and flush valves, which are the go-to strategy for water conservation among 43 percent of facilities professionals. Modified operational procedures or processes such as irrigation schedules (31 percent) and behavioral modifications through awareness and training (22 percent) are distant second and third priorities, respectively, for gaining water consumption efficiency.

While energy costs continue to outpace water costs, Ecova predicts significant water cost increases in coming years, and not just in water restricted Western states.

Clean water infrastructure investments are planned or underway across the nation due to urgently needed water and wastewater treatment facilities maintenance, and much of the multibillion-dollar investment required is being passed through to water consumers. As drought, state and municipal regulations and infrastructure upgrades impact the water market, more organizations will turn their efficiency initiatives toward water conservation and cost reduction.
DISTRIBUTED ENERGY RESOURCES ON THE RISE

According to our survey, facilities managers are on the front lines of exploration and adoption of distributed energy resource (DER) opportunities. The data tells us that facilities, energy management, procurement, and sustainability professionals are nearly equal in their interest in DERs, a category of energy sources and technologies that includes on- and off-site renewables such as solar and wind and the integration of onsite energy generation, storage, and demand management technologies. DERs present renewables-conscious organizations an opportunity to optimize their energy strategies for both cost efficiency and environmental footprint reduction.

HAS YOUR ORGANIZATION INVESTED IN DISTRIBUTED ENERGY RESOURCE SOLUTIONS?

This is another indication that pressured facilities managers are keenly interested in exploring every avenue to reduce demand and consumption. Often, as organizations seek to reduce energy spend through demand response program participation, facilities managers are on the front lines of a troubling realization—they can’t afford to turn assets off during peak times. DERs appear an attractive alternative to achieving the same result.

SOLAR INCENTIVE TAX CREDIT EXTENDED

Congress has extended the 30% solar incentive tax credit that was due to expire at the end of 2016.
A HOLISTIC APPROACH

Energy and natural resource consumption—and costs—fluctuate due to a variety of external forces, from supply and demand to weather and geopolitical influences. Meanwhile, carbon, energy efficiency, and sustainability reporting requirements are putting more pressure on facilities professionals to manage energy and water consumption and optimize waste streams. With data-driven insight into consumption, utility, and waste hauler performance, facilities managers are helping to turn energy, water, and waste line items into controllable costs.

The financial, social, and brand equity gains associated with energy and sustainability management are resulting in growing awareness of opportunities for cost reductions. A holistic view of the organization’s utility and waste cost and consumption data isn’t just the hallmark of today’s most successful energy and sustainability programs; it’s increasingly recognized as imperative to future business continuity and facilities management.
ABOUT ECOVA

Ecova makes businesses and utilities more successful through energy and sustainability management. Ecova blends data and technology, with people and insight, to drive powerful results for clients. Using insights based on consumption, cost and carbon footprint data spanning thousands of utilities, hundreds of thousands of business sites and millions of households, Ecova provides fully managed, technology-optimized solutions for saving resources, which in turn increase returns, lower risks and enhance reputations. Ecova is a subsidiary of ENGIE, a worldwide, global energy player. For more information, visit the company’s website www.ecova.com, on LinkedIn, or follow Ecova on Twitter at @EcovaInc.